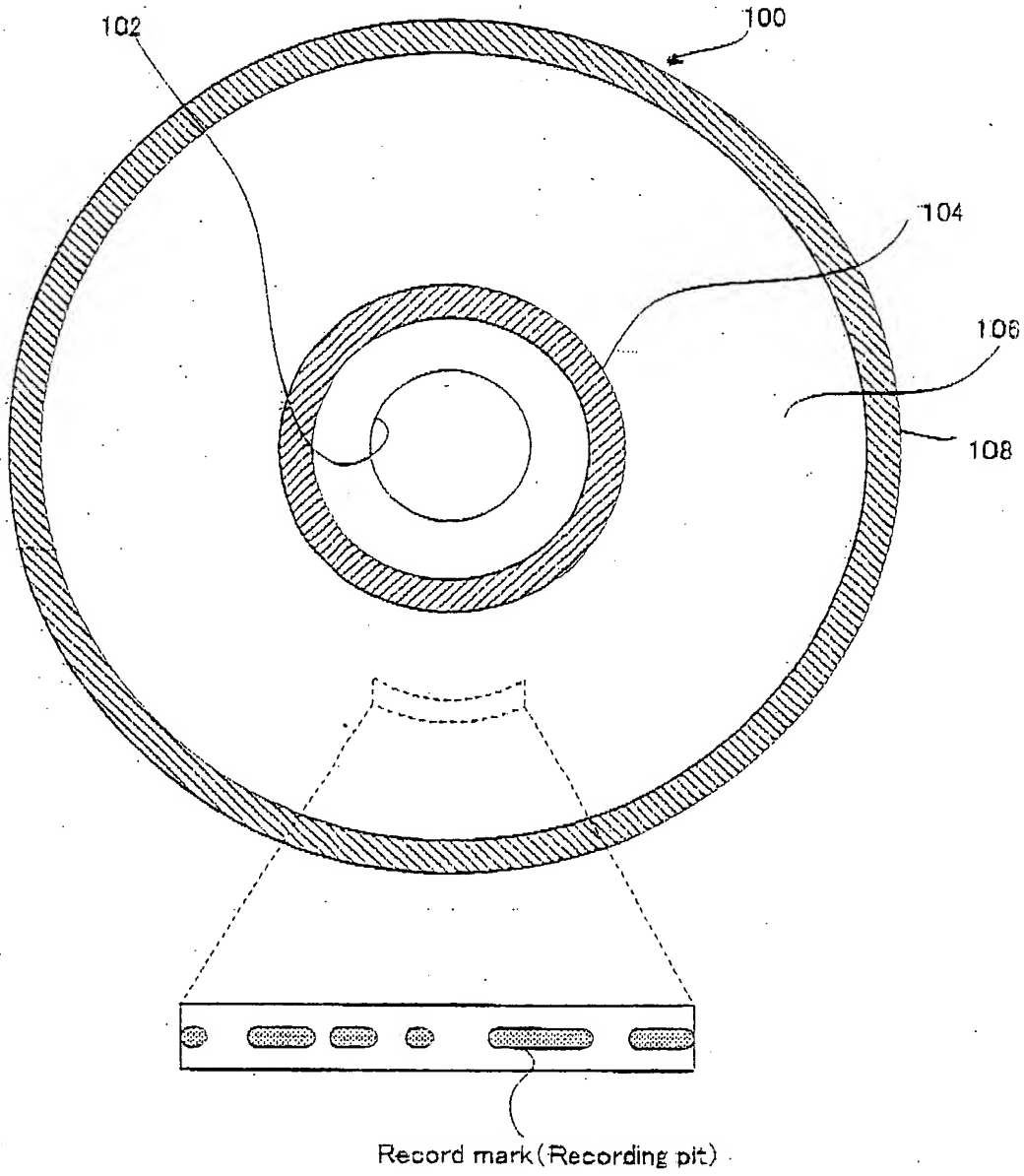
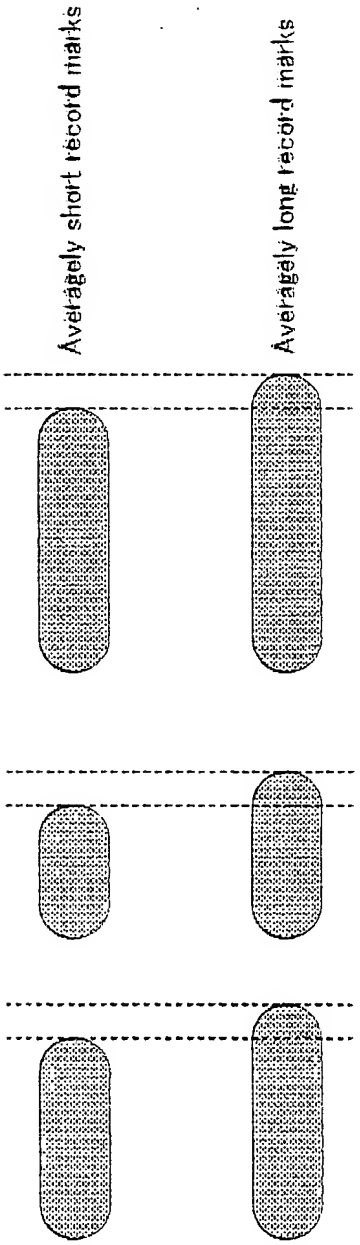
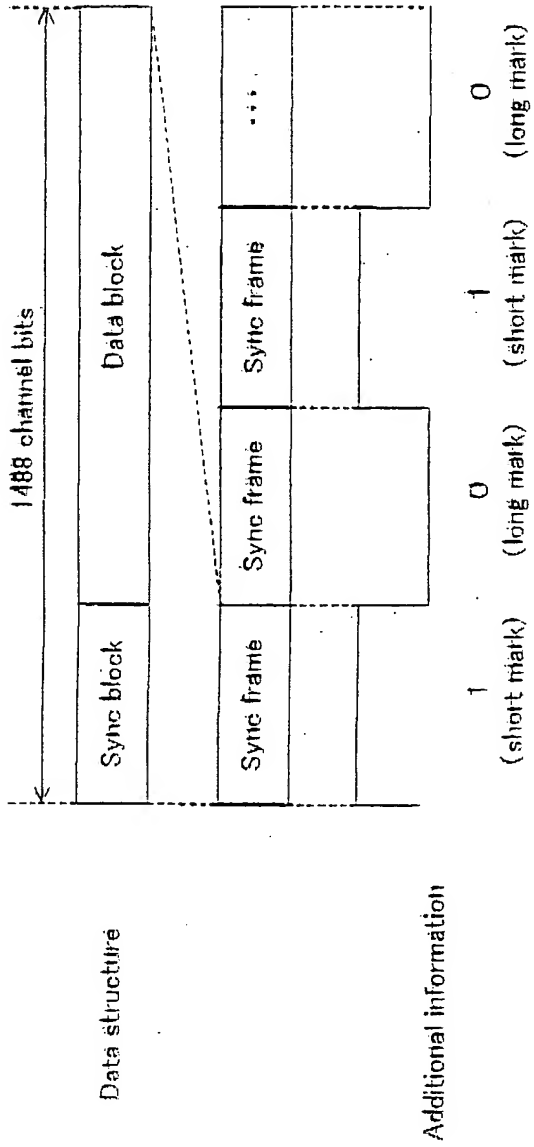
[FIG. 1]



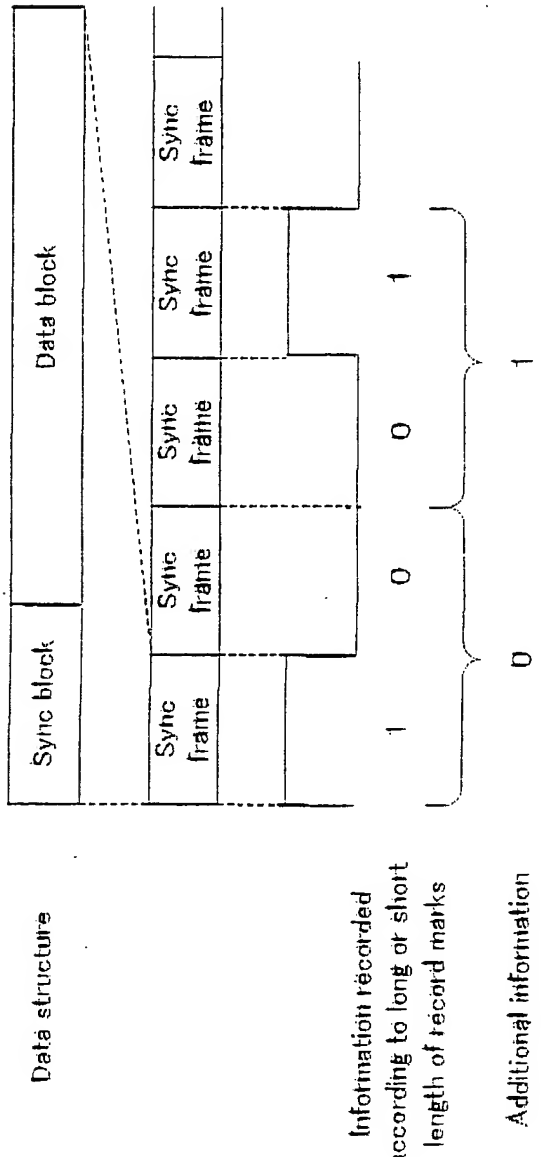
[FIG. 2]



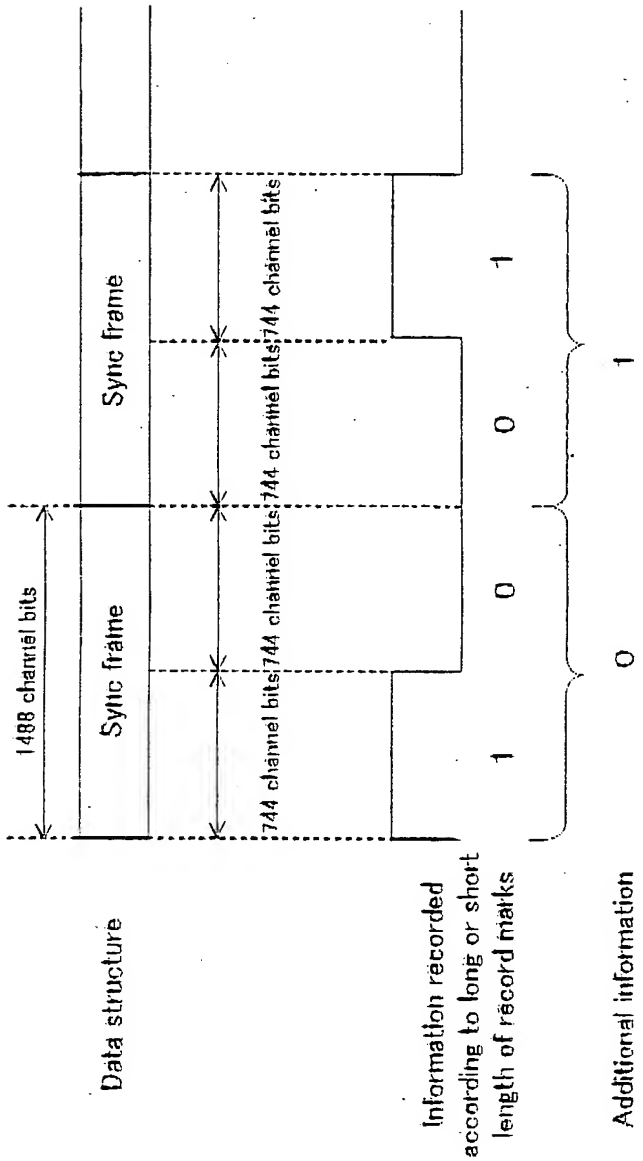
[FIG. 4]


1488 channel bits
Sync block
Data block
Sync frame
Sync frame
Sync frame
...
Data structure
1
(short mark)
0
(long mark)
0
(long mark)
1
(short mark)
0
(long mark)
Additional information

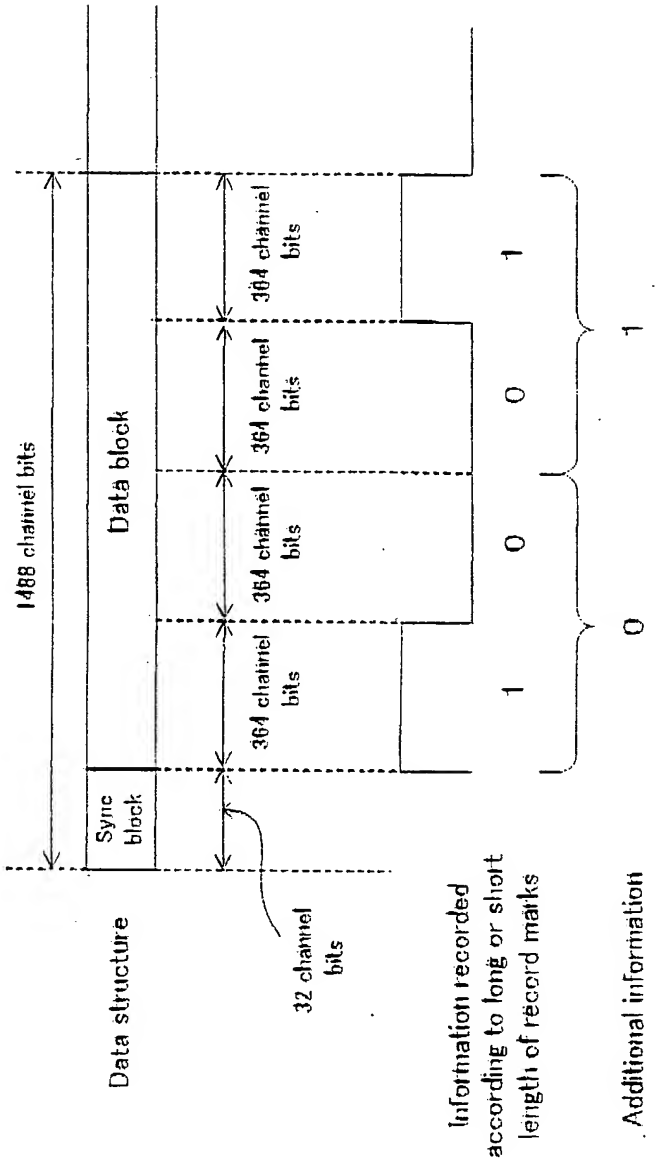
[FIG. 5]


Data structure
Sync block
Data block
Sync frame
Sync frame
Sync frame
Sync frame
Sync frame
Information recorded according to long or short length of record marks
1
0
0
1
Additional information
0
1

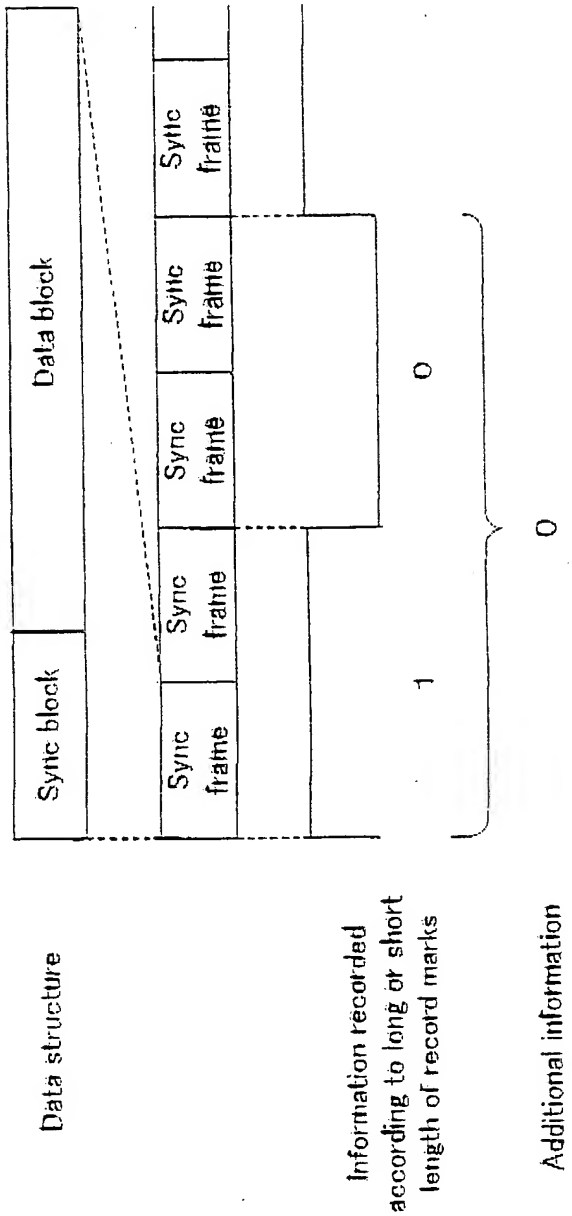
[FIG. 6]


1488 channel bits
Sync frame
Sync frame
744 channel bits
744 channel bits
744 channel bits
744 channel bits
Data structure
Information recorded according to long or short length of record marks
Additional information
1
0
0
1
0
1

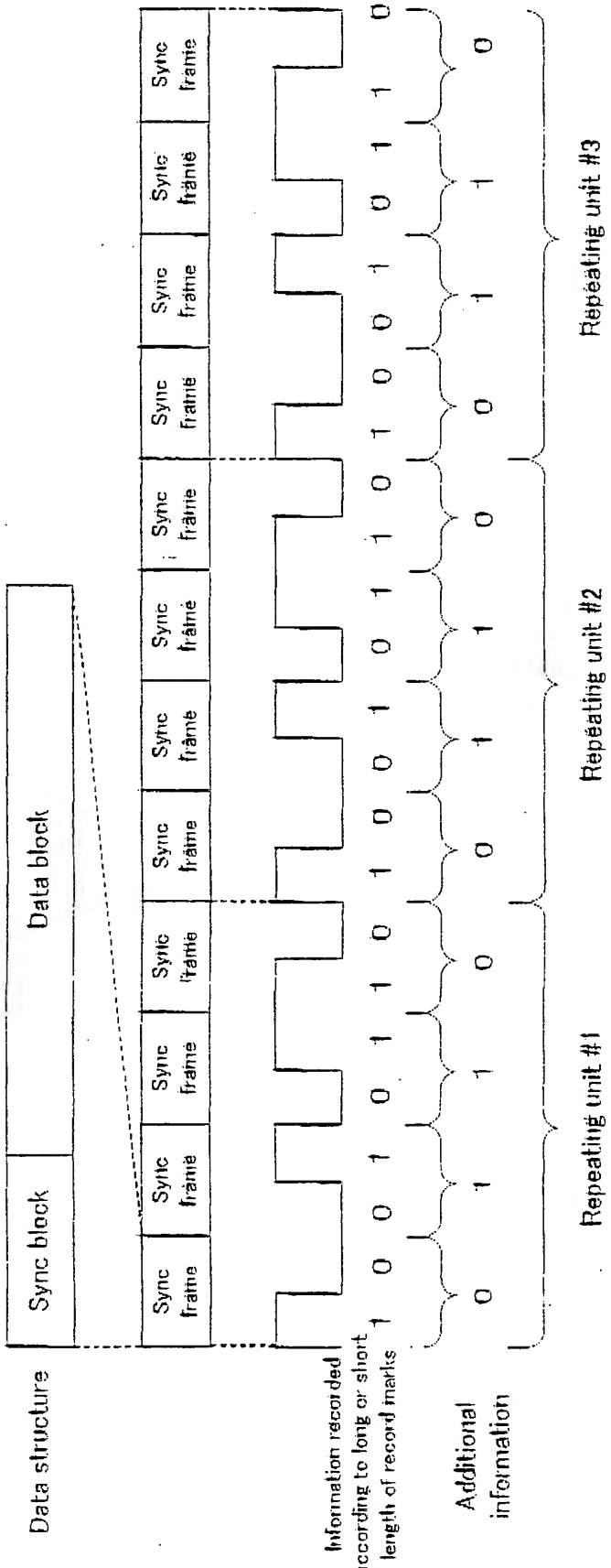
[FIG. 7]


1488 channel bits
Data block
364 channel bits
364 channel bits
364 channel bits
364 channel bits
Sync block
32 channel bits
Data structure
1
0
0
1
Information recorded according to long or short length of record marks
0
1
1
Additional information

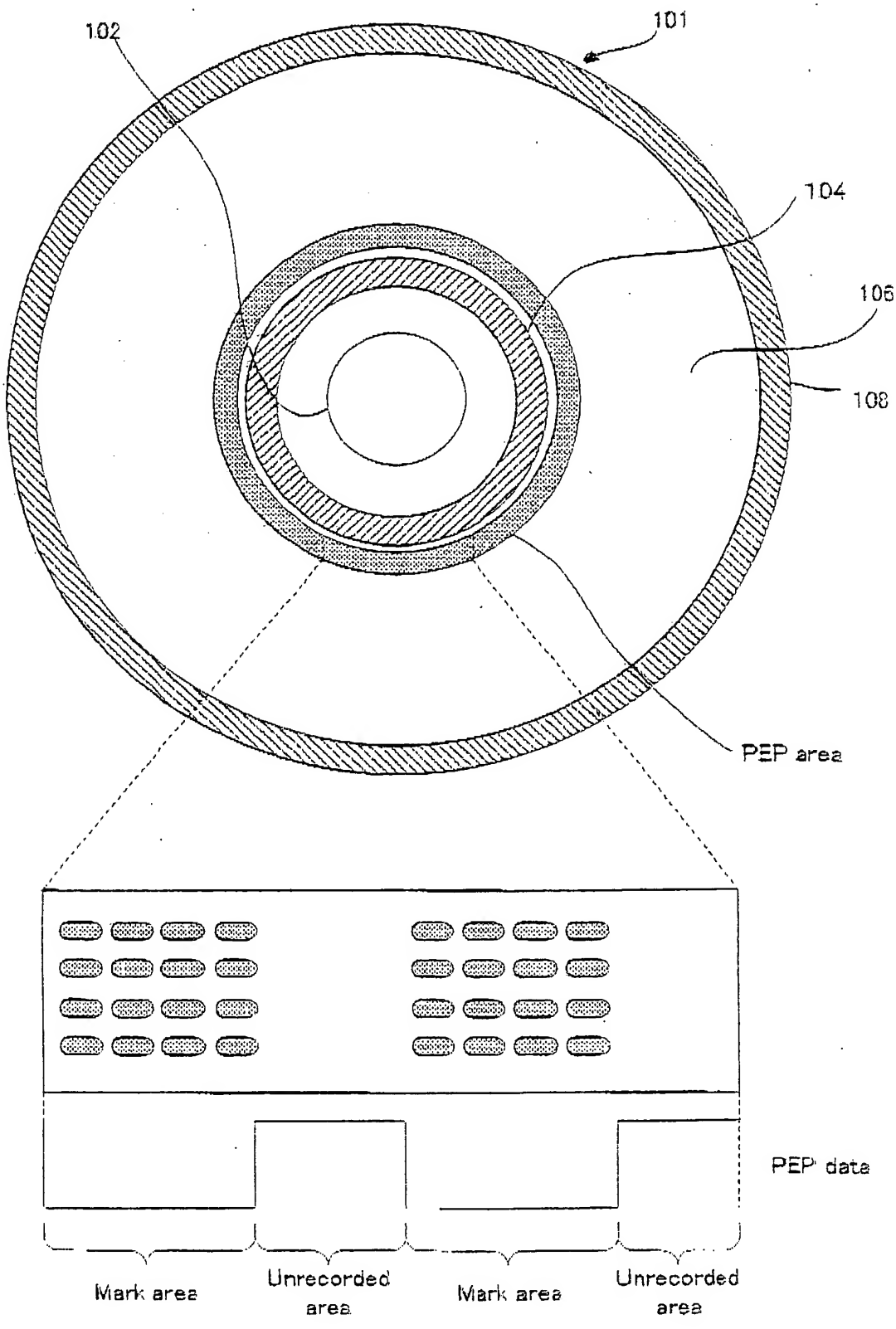
[FIG. 8]


Data structure
Sync block
Data block
Sync frame
Sync frame
Sync frame
Sync frame
Sync frame
Information recorded according to long or short length of record marks
1
0
Additional information
0

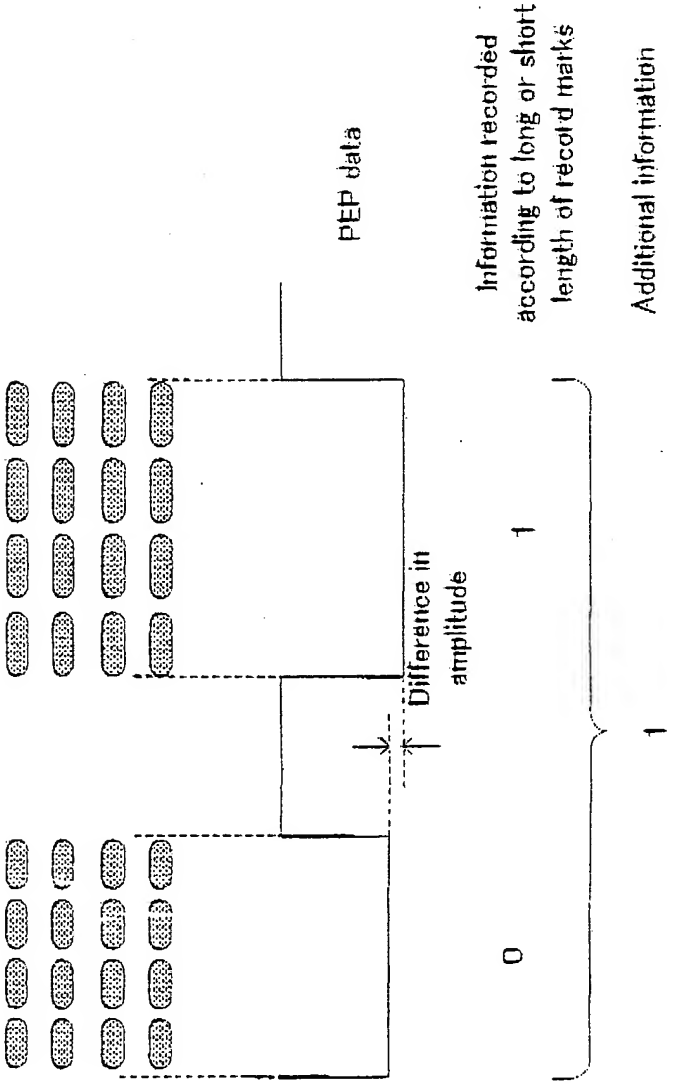
[FIG. 9]


Data structure
Sync block
Data block
Sync frame
Information recorded according to long or short length of record marks
1 0 0 0 1 0 1 1 0 0 1 0 0 0 1 0 1 1 0 0 1 1 0 1 0 0 0 1 1 0 1 0
Additional information
0 1 1 0 0 1 1 0 1 1 0 0 1 1 0 1 0 0 1 1 0
Repeating unit #1
Repeating unit #2
Repeating unit #3

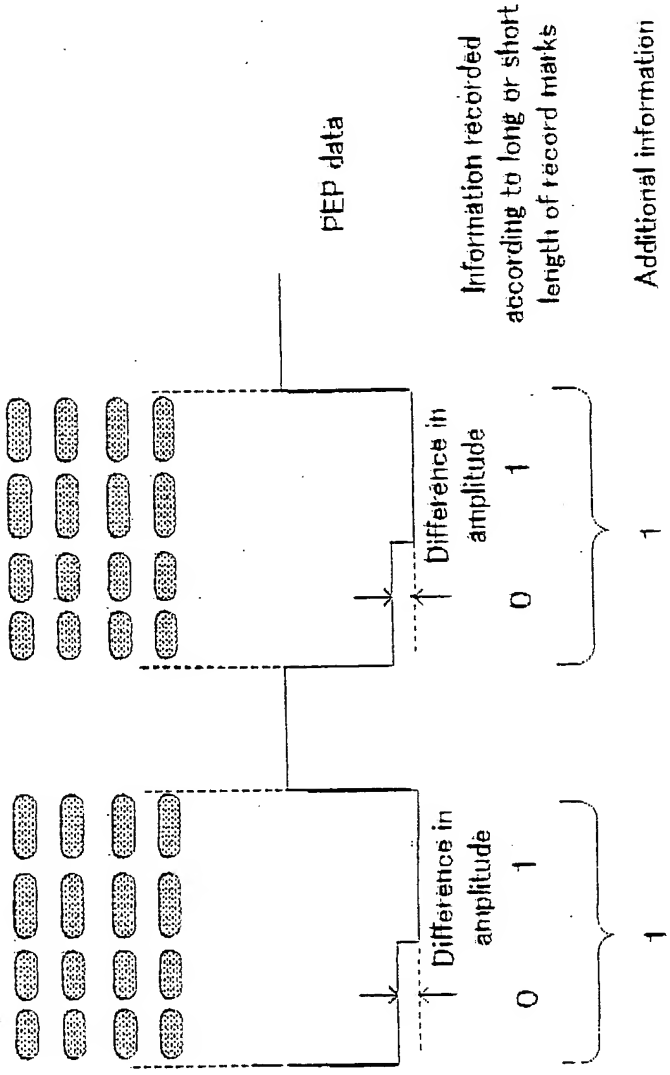
[FIG. 10]


102
101
104
106
108
PEP area
PEP data
Mark area
Unrecorded area
Mark area
Unrecorded area

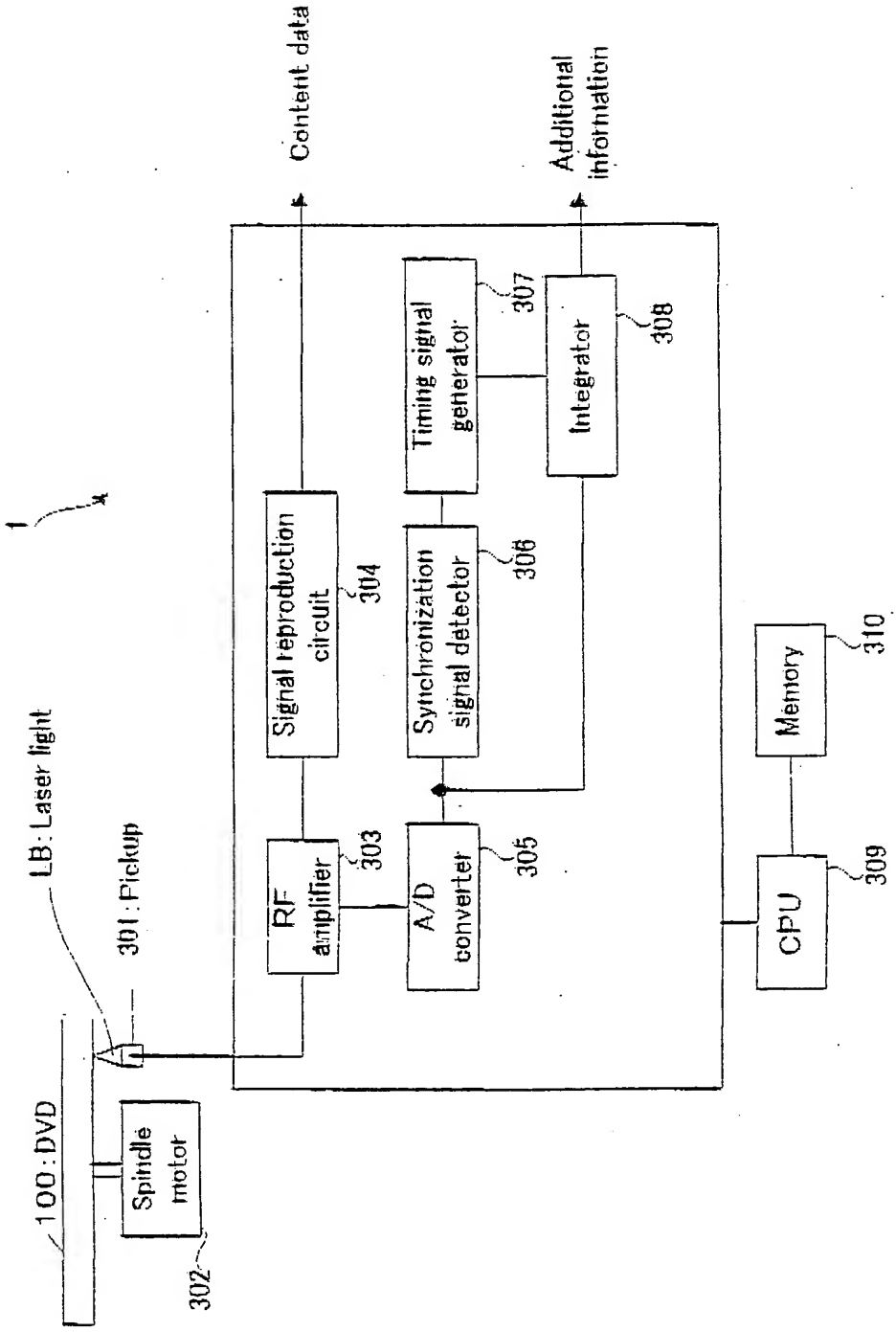
[FIG. 11]


PEP data
Information recorded according to long or short length of record marks
Additional information
Difference in amplitude
1
0
1

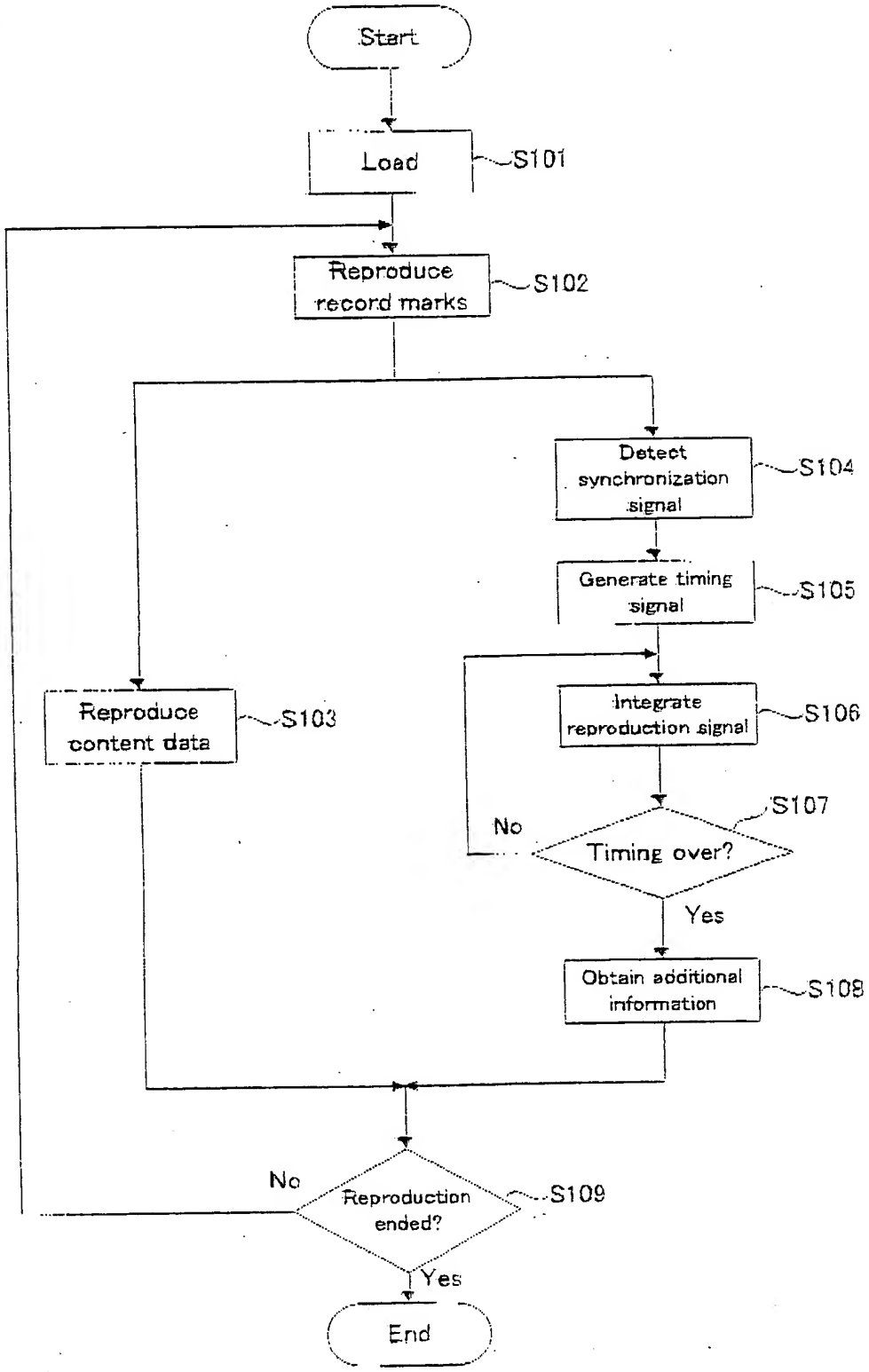
[FIG. 12]


PEP data
Information recorded according to long or short length of record marks
Additional information
Difference in amplitude
0
1
1
Difference in amplitude
0
1
1

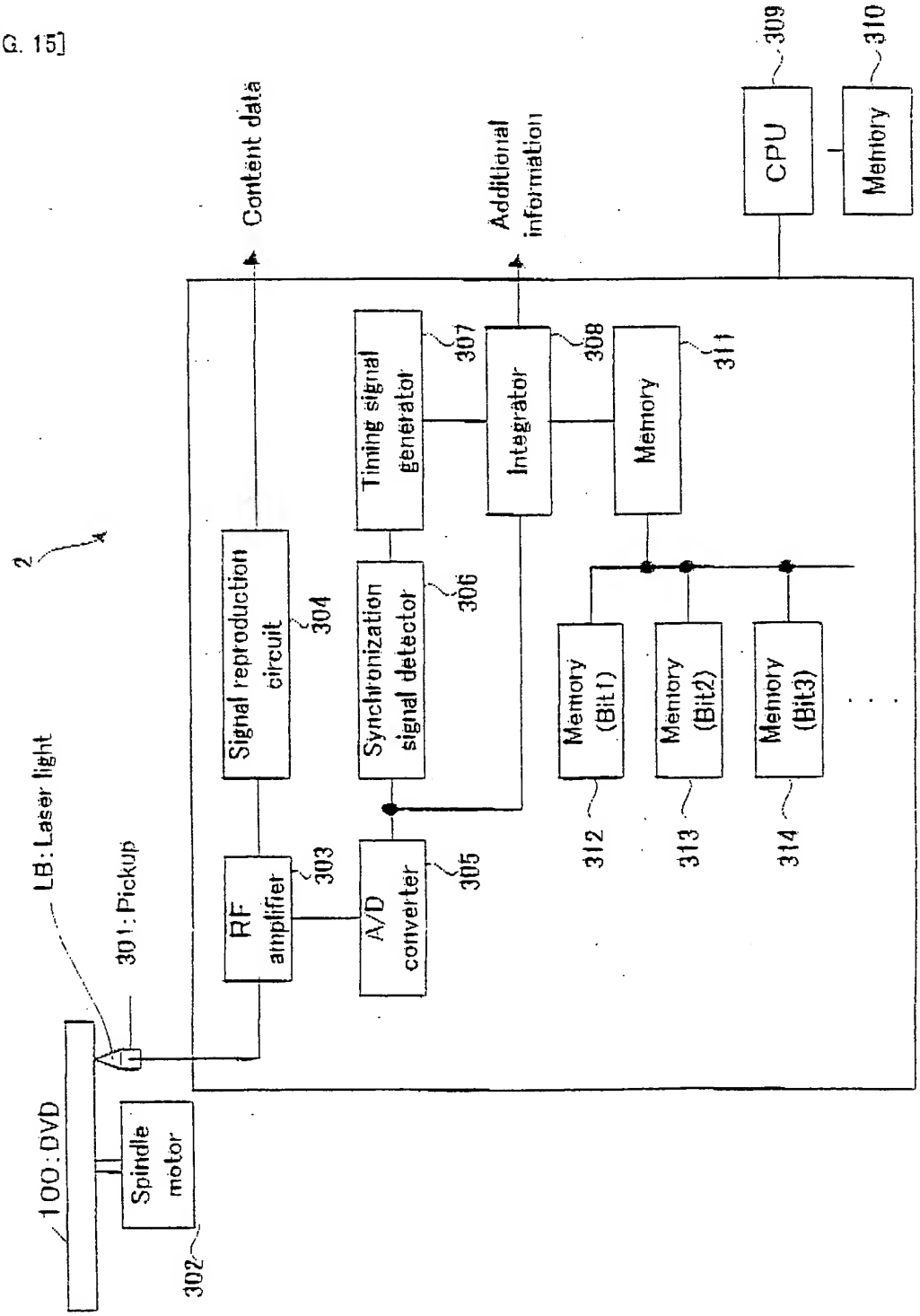
[FIG. 13]


Content data
Additional information
Timing signal generator
307
Integrator
308
Signal reproduction circuit
304
Synchronization signal detector
306
Memory
310
RF amplifier
303
A/D converter
305
CPU
309
LB: Laser light
301: Pickup
100: DVD
Spindle motor
302
1

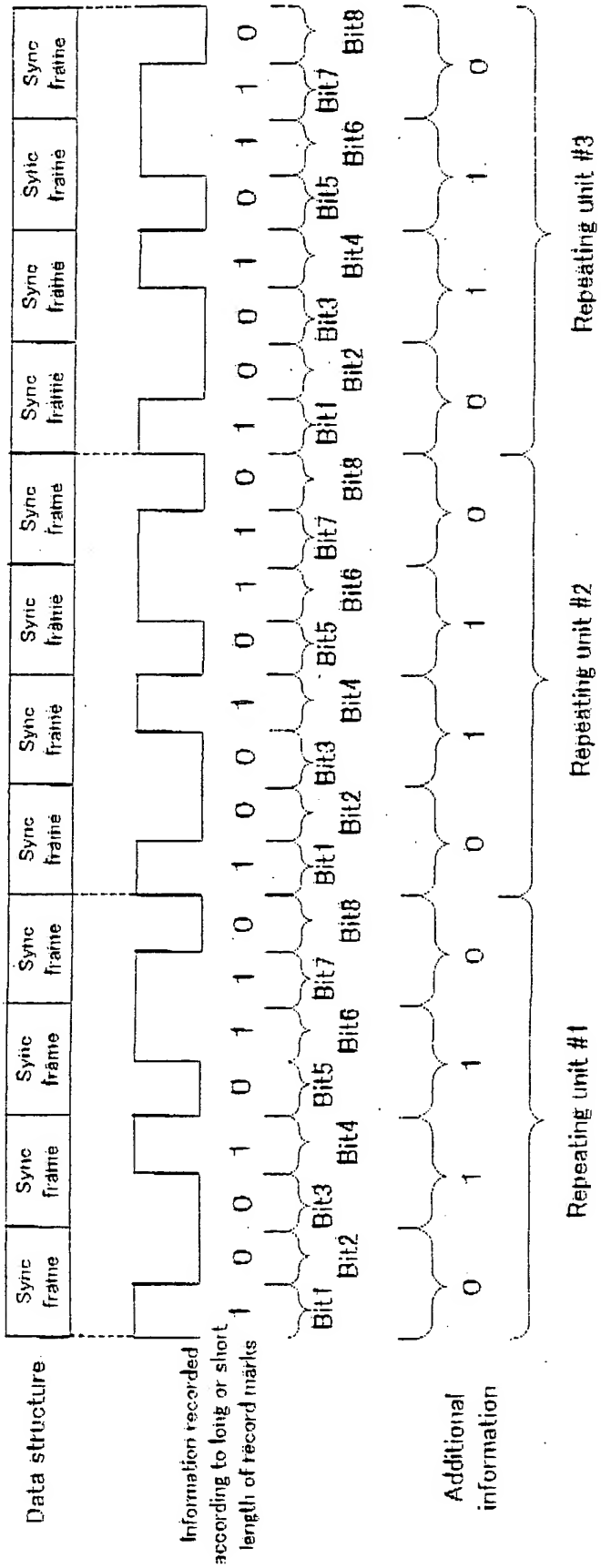
[FIG. 14]


Start
Load
S101
Reproduce record marks
S102
Detect synchronization signal
S104
Generate timing signal
S105
Reproduce content data
S103
Integrate reproduction signal
S106
No
Timing over?
S107
Yes
Obtain additional information
S108
No
Reproduction ended?
S109
Yes
End

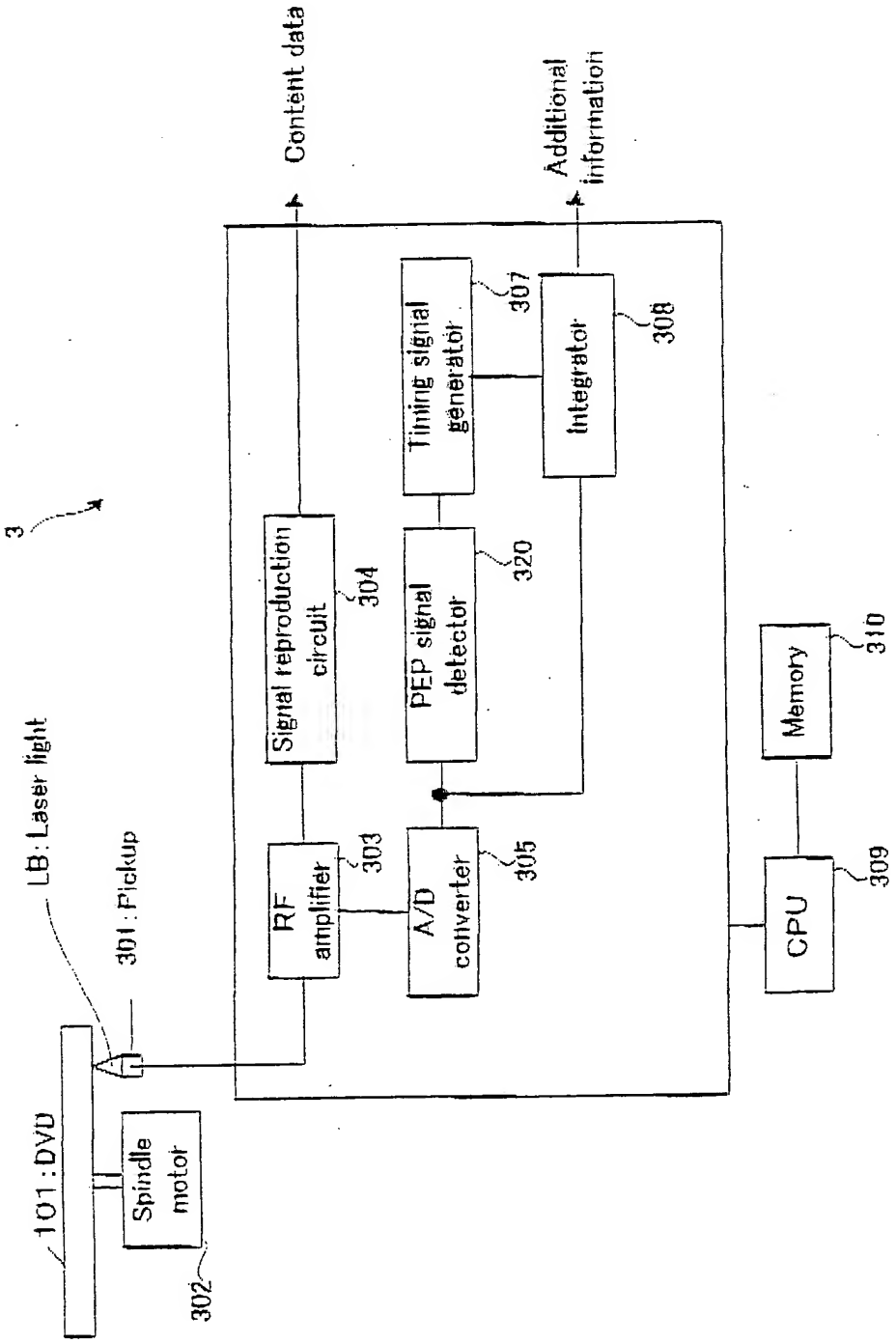
[FIG. 15]


2
100: DVD
Spindle motor
302
LB: Laser light
301: Pickup
RF amplifier
303
Signal reproduction circuit
304
A/D converter
305
Synchronization signal detector
306
Timing signal generator
307
Integrator
308
Memory
311
Content data
Additional information
CPU
309
Memory
310
Memory (Bit1)
312
Memory (Bit2)
313
Memory (Bit3)
314

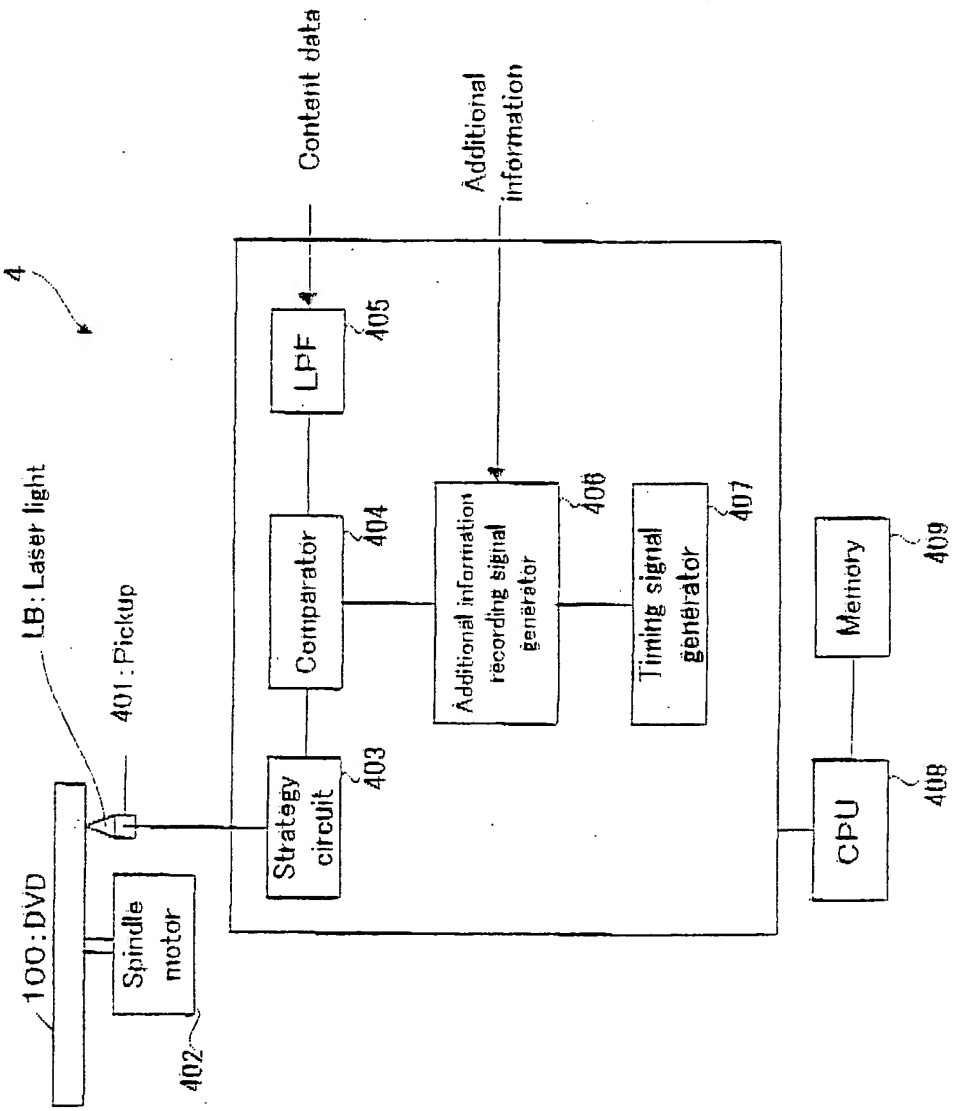
[FIG. 16]


Data structure
Sync frame
Information recorded according to long or short length of record marks
1 0 0 1 0 1 1 0 1 0 0 0 1 0 1 1 0 1 0 0 0 1 0 1 1 0
Bit1 Bit2 Bit3 Bit4 Bit5 Bit6 Bit7 Bit8
Additional information
0 1 1 0 0 1 1 0 0 1 1 0
Repeating unit #1
Repeating unit #2
Repeating unit #3

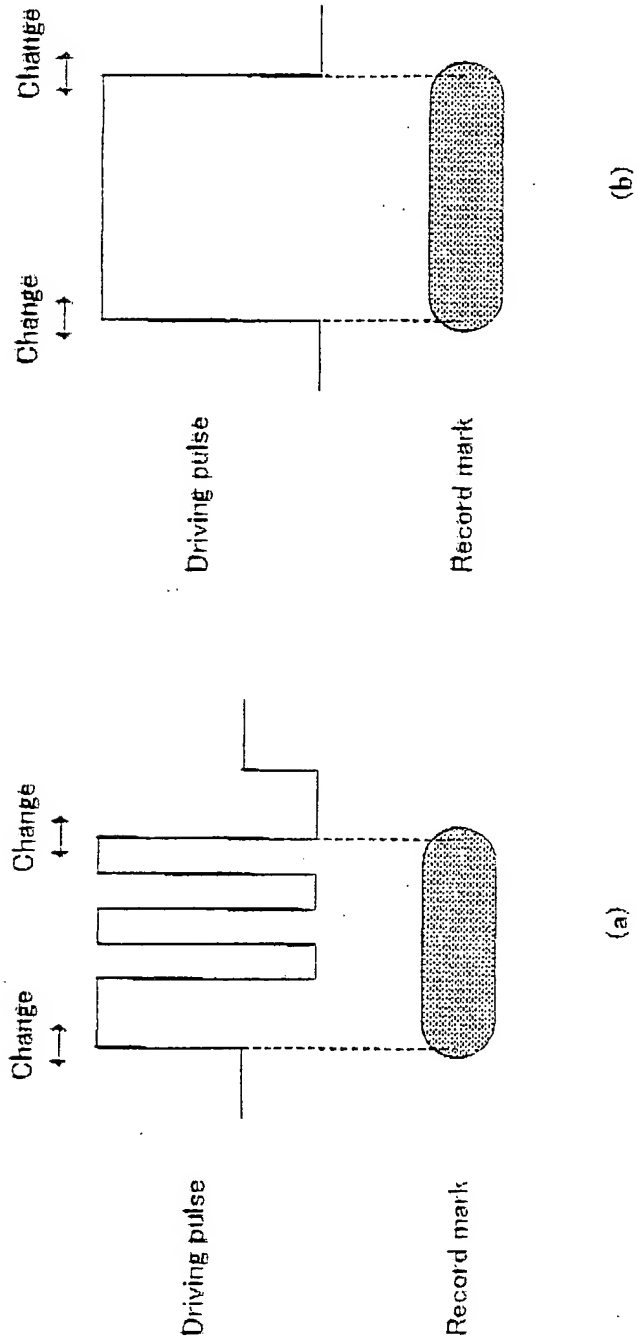
[FIG. 17]


Content data
Additional information
3
Timing signal generator
307
Integrator
308
Signal reproduction circuit
304
PEP signal detector
320
Memory
310
LB: Laser light
301: Pickup
RF amplifier
303
A/D converter
305
CPU
309
101: DVD
Spindle motor
302

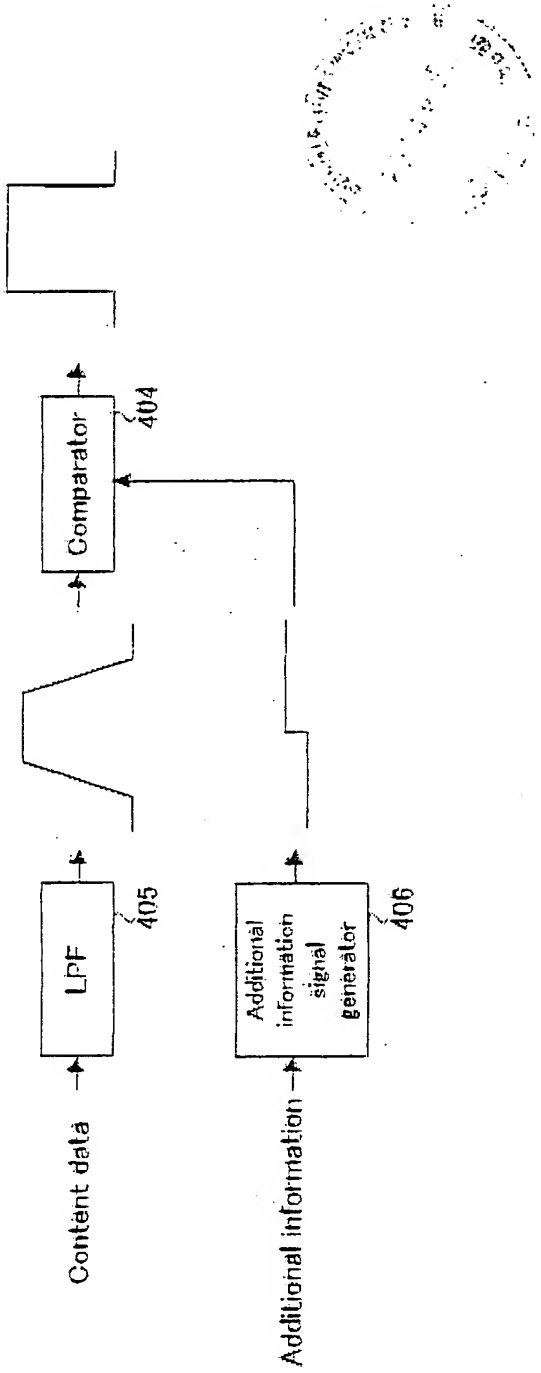
[FIG. 18]


4
Content data
Additional information
LPF
405
Comparator
404
Additional information recording signal generator
406
Timing signal generator
407
Memory
409
LB: Laser light
401: Pickup
Strategy circuit
403
CPU
408
100: DVD
Spindle motor
402

[FIG. 19]


Change
Change
Driving pulse
Record mark
(b)
Change
Change
Driving pulse
Record mark
(a)

[FIG. 20]


Comparator
404
LPF
405
Additional information signal generator
406
Content data
Additional information